

## HYBRID WAVEGUIDE

### ABSTRACT OF THE DISCLOSURE

5 A waveguide system wherein a top cladding layer leaves portions of an underlying core channel exposed to ambient air. The ends of core channels are exposed so that light can exit out of or enter into each of the core channels. Openings are formed in the top cladding layer to expose a curved section of a core channel to the ambient air. The low index of refraction of the ambient air allows the curved section to have a reduced turn radius and thereby allows the waveguide system to have a smaller footprint. A via in  
10 the top cladding layer provides access to an underlying core channel so that optical communication with the underlying core can be established. An optical computer input device formed of waveguide systems having top cladding layers that leave portions of an underlying core channel exposed.